GRAM', N.I.

USSR/Physical Chemistry - Thermodynamics, Thermochemistry, Equilibria, Physical-Chemical Analysis, Phase Transitions. B-8

Abs Jour : Referat Zhur - Khimiya, No 1, 1958, 365

Author : N.I. Gram', A.A. Tseydler.
Inst :
Title : Reactions between Alloy and Slag in Systems Fe - Co - O and Fe - Ni - O.

Orig Pub : Tsvetn. metally, 1957, No 4, 44-49

Abstract : The equilibria of reactions CoO + Fe ⇄ FeO + Co (1) and NiO + Fe ⇄ FeO + Ni (2) at temperatures from 1517 to 1580° (1) and from 1516 to 1609° (2) were studied at enlarged laboratory scales with a view to introduce the process of blowing the Co - Fe - Ni alloy without fluxes. The equilibrium constants were computed by the equations $K_{(1)} = [\overline{Co}]/(Fe) / [\overline{Fe}]/(Co)$ and $K_{(2)} = [\overline{Ni}]/(Ni) / [\overline{Fe}]/(Ni)$. The concentrations of metals in the alloy and slag were expressed in % by weight. The dependence of the

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USSR/Physical Chemical - Thermodynamics, Thermochemistry, Equilibria, Physical-Chemical Analysis, Phase Transitions. B-8

Abs Jour : Ref Zhur - Khimiya, No 1, 1958, 365

equilibrium constants on the temperature is expressed by equations $\log K_{(1)} = 4220 / T - 0.886$ and $\log K_{(2)} = 6535.6 T - 1.687$.

Card 2/2

GRAMA, M.

Surface and upper winds in the zone of the city of Bacau.
Meteorologia hidrol gosp 6 no.1:32-45 '61.

G.

RUMANIA/Chemical Technology - Chemical Products and Their Application. Food Industry I-28

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 13829

Author : Gramada G.
Title : Sterilization of Products of Animal Origin

Orig Pub : Conservarea pron sterilizare a produselor de origina animala. Rev. ind. aliment. prod. animale. 1955, No 5, 4-6

Abstract : Considered are the effects of basic factors (species and number of micro-organisms, acid value of the product, rate of penetration of heat to the center of the vessel, temperature and duration of sterilization) on the efficacy of sterilization. Methods of control of the finished products are evaluated.

Card 1/1 - 395 -

GRAMADA, G.

TECHNOLOGY

Periodical: REVISTA INDUSTRIEI ALIMENTARE. PRODUSE ANIMALE. No. 3, 1958.

GRAMADA, G. Residual microflora in sterilized, canned meat and fish. p. 17.

Monthly List of East European Accession (EEAI) LC, Vol. 8, No. 3, March 1959, Unclass.

BELOV, A.; SKAKUNOV, I.; SAVITSKIY, V., trener; GRAMAKOVSKIY, G.; DUDKOVA, O.; MINAYEV, A.; PEN'KOV, I.; SEREBRYAKOV, Ye., master sporta

Increase the number of sportsmen and improve their skill. Za rul. 20 no.7:3 Jl '62. (MIRA 15:7)

1. Nachal'nik Vitebskogo avtomotokluba, predsedatel' oblastnoy kollegii sudey (for Belov). 2. Predsedatel' soveta Vitebskogo avtomotokluba (for Skakunov). 3. Chlen soveta Vitebskogo avtomotokluba (for Savitskiy, Gramakovskiy, Dudkova)
(Vitebsk—Motor vehicles—Societies, etc.)

GRAMASHEV, A.F.; GRITCHENKO, V.A.; IOYRYSH, A.I.; POPOV, V.A.; STEPANOV, V.N.; BLOKHIN, N.N., red.; ANDREYEVA, L.S., tekhn. red.

[Invention and efficiency promotion in the U.S.S.R.] Izobretatel'stvo i ratsionalizatsiia v SSSR. Moskva, Izd-vo VTsSPS Profizdat, 1962. 335 p. (MIRA 15:5)
(Technological innovations)

GRAMATIKOV, Petko

Economic aspects, forms, and importance of specialization and cooperation within the machine building enterprise. Godishnik mash elekt 13 no.3:59-86 '63 [publ. '64].

GRAMATIKOV, T.

"Achievements of the rationalizers of the Madzharovo Geologic Study Team."

p.92 (Minno Delo, Vol. 12, no. 1, Jan./Feb. 1957, Sofiia, Bulgaria)

Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 8, August 1958

GRAMATIKOVA, K.

GRAMATIKOVA, K. My dream. p. 4.

Vol. 5, No. 3, 1956.
RADIO
TECHNOLOGY
Sofiia, Bulgaria

So: East European Accession, Vol. 6, No. 2, Feb. 1957

GRAMATOPOL, D.

MICU, D.; ZAMFIRESCU-GHEROGHIU, M.; GRAMATOPOL, D.; MAXIMILIAN, ST.

Value of serum catalase test in control of x-ray therapy. Bul. stiint., sect. med. 9 no.1:51-69 1957.

(RADIOTHERAPY
control with serum catalase tests)
(CATALASE, in blood
determ. in control of x-ray ther.)

GRAMATOPOL, EMILIA

(27)

Bucharest, Igiena, Vol XI, No 1, Jan-Feb 1962 (160)

1. "Occupational Cancer of the Integuments Caused by Tar, Bitumen and Its Derivatives," Prof P. MANU; pp 1-11.

2. "Pollution of the Atmosphere in the Vicinity of an Electrical Thermopower Station," M. ZAMPIRESCU, El. ZVINCA-SELEGEAN, Dr M. BARNEA, Dr TF. SAVEANU, I. ENESCU, E. MIHOIU and St. DIACONESCU; pp 13-17.

3. "Notes on the Supply of Drinking Water in Rural Areas by Means of Small Central Supply Units (Microcentral Units)," Dr T. STOPLER and Dr Emilia GRAMATOPOL; pp 19-25.

4. "Experimental Investigations on the Toxicity of Certain Chemical Substances Used in the Manufacture of Organic Glass (Plexiglass)," Dr Silvia GABOR, Dr C. RAUCHER, Mina LEOCA and Rodica GELERU. Work performed at the RPR Institute of Hygiene and Public Health (Institutul de Igiena si Sanatate Publica RPR), Cluj Branch (Filiala Cluj); pp 27-30.

5. "Investigations Concerning Influences of Ionizing Radiations on the Nutritive Value of Proteins and Lipids in Canned Pork," Dr A. SPORN, Dr N. RACOVEANU, Dr Luigina GHELERTER-CALINESCU. Work performed at the RPR Institute of Hygiene and Public Health (Institutul de Igiena si Sanatate Publica RPR), Bucharest; pp 31-39.

6. "New Aspects Upholding the Use of Clostridium welchii bacterium as Sanitary Indicator for Food Products," Dr Corneliu IEVISTEA; pp 41-48.

7. "The Use of Plant Tests in Food Toxicology," Elena ZVINCA-SELEGEAN, Dr A. SPORN and Silvia CHELMU, RPR Institute of Hygiene and Public Health (Institutul de Igiena si Sanatate Publica RPR), Bucharest; pp 49-53.

8. "A Few Observations on Tube Collimetry," Dr M. ZARMA and Dr Radu-Mihai DIMER; pp 55-60.

9. "Radioactive Pollution of Natural Water Reservoirs," Dr Gh. ZAMPIR; pp 61-65.

— 1/2 —

85160

26.2420
9.4300 (1143, 1138, 1137)

S/139/60/000/005/007/031
E073/E135

AUTHORS: Mushinskiy, V.P., and Gramatskiy, V.I.

TITLE: Electric Conductivity and Optical Absorption of Thin Layers of the System Al—Te

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Fizika, 1960, No. 5, pp 43-49

TEXT: The results are described of studying the electric conductivity and the optical absorption of thin layers of a variable composition of the system Al—Te. The distribution was investigated of the resistance, the transparency and the reflection of the light along a layer of a variable composition, the temperature dependence of the resistance of layers with differing compositions, and the optical absorption as function of the conditions of producing the layers. The specimens were produced by means of a method described by Academician S.A. Vekshinskiy (Ref. 11) by simultaneous evaporation in vacuum of aluminium and tellurium. These substances were made to condense on glass and mica plates 18 x 90 mm2. The temperature of the base was monitored by a copper-constantan thermocouple. According to the data of M. Khansen (Hansen) (Ref. 8), the

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S/139/60/000/005/007/031
E073/E135

Electric Conductivity and Optical Absorption of Thin Layers of the System Al—Te

diagram of state of the system Al—Te has only one singular point corresponding to the compound Al_2Te_3 containing 87.64 wt.% Te which fuses at 895 °C. It was to be anticipated that this compound will stand out from all the alloys of the Al—Te system not only by its fusion temperature but also by its other visible properties. The method applied by the authors of this paper enabled obtaining layers of variable composition with concentrations varying from 100% Al to 100% Te. It was found that the material of the base has little influence on the electric properties of the Al—Te layers. The evaporation was carried out under strictly identical conditions. The specific resistance of the layers depends on its thickness, increasing sharply from a certain thickness value onwards which is characteristic of a given substance, 0.09-0.10 microns in a given case. Therefore the measurements were carried out only on films with thicknesses exceeding 0.1 microns. At relatively low temperatures of the base Al_2Te_3 compounds form within a relatively narrow section of the film, for which the ratio of the atomic

S/139/60/000/005/007/031
E073/E135

Electric Conductivity and Optical Absorption of Thin Layers of the System Al—Te

concentrations of the initial materials is near to 2:3. In other sections the concentration of one or the other of the components predominates. At higher base temperatures the possibility of formation of Al_2Te_3 molecules exists also on adjacent sections and therefore the resistance will increase. It was found that structural changes will occur for a long time after the evaporation is terminated, and for that reason it is difficult to get reproducible results. The optical absorption of Al—Te layers of variable composition was studied by photoelectric methods, by means of a monochromator, on the same specimens as the electric properties. For determining stoichiometric composition of the Al_2Te_3 compound deposited on a glass base, the authors investigated the transparency T and the reflection R of the light from the layer. Both the transparency and the reflection were measured at 6000, 7600 and 9000 Å. It was found that the boundary of the main absorption for Al_2Te_3 compounds is at about 9000 Å, which corresponds to the width of the barred zone,

Electric Conductivity and Optical Absorption of Thin Layers of the System Al—Te

equalling 1.25-1.35 eV, and corresponds satisfactorily with the value ΔE determined on the basis of the temperature dependence of the specific electric conductivity.

There are 9 figures and 11 references: 9 Soviet, 1 German and 1 English.

ASSOCIATION: Kishinevskiy gosudarstvennyy universitet (Kishinev State University)

SUBMITTED: September 29, 1959

Card 4/4

30636

S/081/61/000/020/012/089
B144/B101

24,7400 (1155,1454,1555)

AUTHORS: Mushinskiy, V. P., Svinarchuk, G. Z., Gramatskiy, V. I.

TITLE: Temperature dependence of absorption in thin Al_2Se_3 layers

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 20, 1961, 34-35, abstract 20B241 (Uch. zap. Kishinevsk. un-t, v. 55, 1960, 25-30)

TEXT: The temperature dependence (for temperatures from -183 to +200°C) of the forbidden-band width was spectroscopically studied in Al_2Se_3 layers of $>0.3\mu$ thickness. It has been established that the shifting of the absorption curves in the direction to shorter waves on temperature reduction and to longer waves on temperature increase is apparently due to a change in the forbidden-band width of Al_2Se_3 owing to the increased intensity of lattice vibrations and to the change in the character of the electron - lattice interaction. The temperature coefficient was also determined for the change in forbidden-band width $(5\text{-}6.4)\cdot10^{-4}$ ev/deg. [Abstracter's note: Complete translation.]

Card 1/1

29466
S/137/61/000/008/023/037
A060/A101

24.7700 (also 1164, 1395)

AUTHORS: Mushinskiy, V. P., Gramatskiy, V. I.

TITLE: Electrical characteristics of alloys of the aluminum-tellurium system

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 8, 1961, 5, abstract 8Zh25 ("Uch. zap. Kishinevsk. un-t", 1960, 55, 31-36)

TEXT: Results of a study of the electric conductivity of the Al-Te system are cited. The investigation was carried out on the distribution of resistivity along a layer of variable composition and on the temperature dependence of the resistance of the layers with different composition. Specimens for the investigation were obtained by the simultaneous evaporation in vacuum of Al and Te onto mica and glass plates 90 x 18 mm in size. The method of preparation of the specimens made it possible to obtain layers of variable composition with variation in concentration from 100% Al to 100% Te. The electrical characteristics were studied as a function of the concentration of the components which varied continuously along the specimen. The resistance of specimens with binary composition varies strongly along the length of the specimen, showing a sharp maximum at a

Card 1/2

Electrical characteristics of alloys ...

small segment (10 - 20 mm), whereas measurements of resistance of the layers of Al and Te separately did not yield such a distribution. As the temperature of the backing is raised, the resistance of the high-resistance segments of the film increases, and at the same time the range of concentrations within which the resistance is higher than the resistance of other portions of the film, is extended. The portion of the film with the highest resistance corresponds to the ratio of atomic concentrations 2 : 3, and on this basis it is hypothesized that compound Al_2Te_3 is formed here. The study of the temperature dependence of the resistance of various portions of one and the same film of the variable Al-Te composition has shown that it is different for different portions and varies smoothly with the variation of concentration of the components in the layer. The temperature dependence of the resistance of portions whose composition is close to that of Al_2Te_3 is of a semiconductor nature. In the range of medium temperatures ($< 130^{\circ}C$) the resistance of the layer varies little as the temperature increases. This is explained by the low value of the activation energy of impurities. Beginning from temperature 130 - 150°C a sharp drop of resistance is observed. The latter is connected with the occurrence of intrinsic conductivity in the specimen. The width of the forbidden zone is determined as 1.2 - 1.35 eV.

[Abstracter's note: Complete translation]

A. Rusakov

Card 2/2

GRAMATSKIY, V.I.

Temperature dependence of absorption by thin Ga_2Te_3 films.
Uch. zap. Kish. un. 49:119-122 '61. (MIRA 15:7)
(Gallium telluride--Optical properties)

Some properties of films of the system gallium-tellurium. V. I. Gramatskiy, V. P. Mushinskiy (10 minutes).

Report presented at the 3rd National Conference on Semiconductor Compounds, Kishinev, 16-21 Sept 1963

L 32195-65 EEC(b)-2/EWT(1)/EWT(m)/EWP(b)/T/EWP(t) Pi-4 IJP(c) RDW/GG/JD/GS

ACCESSION NR: AT5005419 S/0000/64/000/001/0034/0034

AUTHOR: Mushinskiy, V. P.; Gramatskiy, V. I. 40 61

TITLE: Some optical and photoelectric properties of thin layers of the Ga-Te system

SOURCE: Nauchnaya konferentsiya molodykh uchenykh Moldavii, 3d. Trudy, no. 1: Yestestvenno-tekhnicheskiye nauki (Natural and technical sciences). Kishinev, Gosizdat Kartya Moldovenyaske, 1964, 34

TOPIC TAGS: absorption spectrum, reflection spectrum, photoconductivity, volt ampere characteristic, lux ampere characteristic, gallium telluride, semiconductor film

ABSTRACT: The absorption and reflection spectra (6,000-13,000A) and the photoconductivity of thin layers of Ga_2Te_3 and GaTe were studied over the temperature range from -183 to +150C. Photoconductivity curves showed some differences and, in Ga_2Te_3, depended on the particular production method. The note does not present any experimental data except for the statement that the temperature coefficient of the absorption spectra was the same for both systems and equal to $(4-6)10^{-4}$ eV/deg. The authors mention (likewise without any details) that they recorded the volt-

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L 32195-65

ACCESSION NR: AT5005419

ampere and lux-ampere characteristics. In one set of Ga_2Te_3 samples they noted an excited state of long lifetime.

ASSOCIATION: None

SUBMITTED: 07Feb64 ENCL: 00 SUB CODE: SS,OP

NO REF SOV: 000 OTHER: 000

Card 2/2

MUSHINSKIY, V.P.; MUSHINSKAYA, K.M.; GRAMATSKIY, V.I.

Optical absorption in thin films of the system Ga_2Te_3 - Ga_2Se_3.
Uch. zap. Kish. un. 75:35-38 '64. (MIRA 18:10)

Ref. zh. Fizika, Abs. 11E419

30
B

AUTHORS: Gramatskiy, V. I.; Mushinskiy, V. P.

TITLE: Some electric properties of thin layers of the Ga-Te system

SOURCE: Uch. zap. Kishinevsk. un-t, v. 69, 1964, 38-40

TOPIC TAGS: gallium tellurium alloy, thin film, electric conductivity, thermoelectric power, temperature dependence

TRANSLATION: The authors investigated the electric conductivity (σ) and the thermoelectric power (α) of thin ($\sim$ 0.2 μ) semiconductor films of compounds of the Ga-Te system, obtained by evaporation of bulky single and polycrystalline samples of GaTe(I) and Ga_2Te_3(II) in a vacuum $\sim 10^{-5}$ mm Hg. The films were condensed on glass and mica substrates and maintained at temperatures (T) ranging from room tempera-

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L [illegible]65

ACCESSION NR: AR5004858

ture to 300C. It was established that the material of the substrate has little effect on the properties of the film. Measurements of σ and α for films of I and II were made in the interval of T from -183 to +300C. Both compounds displayed an identical character of the T dependence: σ depends little on T at low temperatures and increases sharply starting with 120C, presumably as a result of a transition to intrinsic conductivity. The width of the forbidden band, determined from the slope of the lnσ vs. 1/T curve at high T, amounts to 1.65 and 1.56 eV for I and II, respectively. σ increases weakly with increasing temperature and has in the mean a value ~500 μV/deg. A. Zhdan.

SUB CODE: SS ENCL: 00

Card 2/2

L 12650-65 EWT(1)/EWG(k)/EWT(m)/T/EEC(t)/EEC(b)-2/EWP(b) Pz-6 IJP(c)/AFWL/ ASD(a)-5/SSD/AS(mp)-2/ESD(t) RDW/JD/GG/AT/MLK

ACCESSION NR: AT4044565 S/0000/64/000/000/0112/0122

AUTHOR: Gramatskiy, V.I., Mushinskiy, V.P.

TITLE: Photoelectric and optical properties of thin GaTe layers

SOURCE: AN MolSSR. Institut fiziki i matematiki. Issledovaniya po poluprovodnikam; novy*ye poluprovodnikovy*ye materialy* (Semiconductor research; new semiconductor materials). Kishinev, Gos. Izd-vo Kartya Moldovenyaske, 1964, 112-122

TOPIC TAGS: semiconductor, gallium telluride, photoelectric property, optical property

ABSTRACT: The authors present the results of a study of the optical and photoelectric properties of thin GaTe layers, undertaken to collect more information on the compound as a semiconductor material. A UM-2 monochromatic spectrograph, an FESS-UZ photocell and a mirror galvanometer were used to determine the stationary photoconductivity, and the spectral characteristics of light refraction and absorption in well-burned, 0.3-2.0 μ thick, GaTe layers as functions of temperature (20, 70 and 183C and 100 — 400K) and layer thickness. The coefficient of refraction was found to be approximately 2.7 and to increase with a decrease in temperature. The spectral characteristics of the photocurrent showed a maximum at λ=730 mμ which tended to move toward the higher wave-

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L 12650-65
ACCESSION NR: AT4044565

lengths as the temperature increased, the trap level depth was approximately 0.01 ev, the width of the forbidden zone was 1.45 ev, and the maximum of stationary photoconductivity was established at -70 — -80. Orig. art. has: 10 figures and 5 formulas.

ASSOCIATION: Institut fiziki i matematiki AN Mol SSR (Institute of Physics and Mathematics, AN Mol. SSR)

SUBMITTED: 13Dec63 ENCL: 00 SUB CODE: EC, OP

NO REF SOV: 005 OTHER: 003

Card 2/2

GRAMATSKIY, V.I.

Optical and photoelectric properties of CaTe single crystals. Uch. zap. Kish. un. 75:39-42 '64. (MIRA 18:10)

L 11081-65 EWT(1)/EWT(m)/T/EEC(b)-2/EWP(b) IJP(c)/AFWL/BSD/AS(mp)-2/ESD(gs)/ESD(t) RDW

ACCESSION NR: AP4048436 S/0181/64/006/011/3478/3479

AUTHORS: Gramatskiy, V. I.; Mushinskiy, V. P.

TITLE: Optical properties of single crystals of Ga_2Te_3

SOURCE: Fizika tverdogo tela, v. 6, no. 11, 1964, 3478-3479

TOPIC TAGS: gallium compound, single crystal, optical absorption, temperature dependence, forbidden band

ABSTRACT: Continuing earlier studies of Ga_2Te_3 (Izv. vuzov SSSR, Fizika, No. 3, 173, 1963); (Uch zap. KGU v. 49, 119, 19), the authors measured the optical absorption of large samples (40--100 μ thick) of this compound cleaved from a large single crystal. The measurements were made at various temperatures with the aid of an UM-2 monochromator and an IKS-14 spectrophotometer. The long-wave edge of the principal absorption band was found to shift toward longer wavelengths with increase in temperature. The width of the

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L 14841-65
ACCESSION NR: AP4048436

forbidden band, calculated from the shift of this edge, was found to vary linearly with the temperature, with a temperature coefficient -4×10^{-4} eV/deg. The present results agree well with the data obtained earlier for thin layers of this compound. Orig. art. has: 2 figures.

ASSOCIATION: Kishinevskiy gosudarstvenny*y universitet (Kishinev State University)

SUBMITTED: 18Jun64 ENCL: 00

SUB CODE: SS, OP NR REF SOV: 003 OTHER: 000

Card 2/2

ACCESSION NR: AP4041381 S/0048/64/028/006/1077/1079

AUTHOR: Gramatskiy, V.I.; Mushinskiy, V.P.

TITLE: Some electric and photoelectric properties of Ga-Te system single crystals /Report, Third Conference on Semiconductor Compounds held in Kishinev 16-21 Sep 1963

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.28, no.6, 1964, 1077-1079

TOPIC TAGS: semiconductor, electric conductivity, Hall effect, photoconductivity, thermal emf, gallium compound, tellurium compound.

ABSTRACT: Despite its title, this paper is concerned only with the two compounds, GaTe and Ga_2Te_3, single crystals of which were investigated. Ga_2Te_3 was found to have the ZnS type structure and GaTe to have a monoclinic lattice. The conductivity and thermal emf were measured over the temperature range from -183 to 350°C. Higher temperatures could not be employed because the specimens began to decompose. The Hall coefficient was measured from -183 to 20°C. The photoconductivity spectral distribution was determined at room temperature. The results are presented graphically. The temperature dependence of the measured quantities was very similar for the two materials, but the conductivities and Hall coefficients differed consider-

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ACCESSION NR: AP4041381

ably in magnitude, GaTe had the larger conductivity and the smaller Hall coefficient by factors 10^6 and 10^3, respectively. Conductivity measurements were performed both in evacuated glass tubes and in air. The results differed greatly in the impurity conduction region but came into agreement when intrinsic conduction set in at 200°C. The thermal emf was almost independent of temperature below 200°C (approximately one millivolt per degree for both materials), and decreased rapidly with increasing temperature at higher temperatures. The Hall coefficient and the carrier mobility decreased and the carrier concentration increased with increasing temperature over the range investigated, which lay entirely within the impurity conduction region. The energy gap was 1.66 eV for GaTe and 1.56 eV for Ga_2Te_3. The maximum photoconductivity of GaTe and Ga_2Te_3 occurred at 710 and 760 millimicrons, respectively; these figures are in agreement with those found for polycrystalline materials by N.A.Goryunova et al (Zh.Tekhn.fiz.25,10,1955). Orig.art.has: 5 figures.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: SS,IC

NR REF SOV: 002

OTHER: 000

Card 2/2

L 27082-66 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AT6005622 SOURCE CODE: UR/2837/64/069/000/0038/0040

AUTHOR: Gramatskiy, V.I.; Mushinskiy, V.P.

66

B+1

ORG: none

TITLE: Some electrical properties of thin films of the system Ga-Te

SOURCE: Kishinev. Universitet, Uchenyye zapiski, v. 69, 1964, 38-40

TOPIC TAGS: semiconducting film, gallium compound, electric conductivity, metal film, thermoelectric power, tellurium compound, temperature dependence, electric property

ABSTRACT: This paper is a study of the electrical conductivity and thermoelectric power of thin, vapor-deposited films of GaTe and Ga_2Te_3. Thin films of the Ga-Te system were obtained by the evaporation of massive polycrystalline and monocrystalline specimens of GaTe and Ga_2Te_3 in a vacuum of the order of 10^{-5} mm. Hg, and also by the Veksphinsky method. The substrates were glass and mica, at controlled temperatures. The physical properties of the films were found to depend upon many factors, such as the velocity of sublimation, temperature of the substrate, et c. However, the substrate material did not significantly affect the film electrical properties. To exclude anomalies related to excessively thin films, films at least .2 μ thick were used. Measurements of electrical conductivity and differential thermoelectric power were made under vacuum. Curves of temperature dependence of the electrical conductivity of thin

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L 27082-66

ACC NR: AT5005622

films of GaTe and Ga_2Te_3 are given for a temperature range of -183°C to + 300°C, obtained both in vacuum and in air. The forbidden zone width of Ga_2Te_3, determined from the slope of the logarithm of the conductivity curve plotted vs. the inverse temperature, was 1.56 electron volts, in agreement with known optically determined data. The differential thermoelectric power (relative to copper) of thin films showed little temperature dependence; it was of the order of 450 microvolts/degree C. for GaTe, and 500 microvolts/degree C. for Ga_2Te_3. Orig. art. has: 3 figures.

SUB CODE: 11 SUBM DATE: 00 ORIG REF: 014 OTH REF: 00

Card 2/2

L 23812-66 EWT(m)/ETC(f)/EWG(m)/EWP(t) IJP(c) RDW/JD/JG
ACC NR: AR6005204 SOURCE CODE: UR/0058/65/000/009/D074/D074

AUTHORS: Mushinskiy, V. P.; Mushinskaya, K. M.; Gramatskiy, V. I.

TITLE: Optical absorption in thin layers of the system Ga_2Te_3 -- Ga_2Se_3

SOURCE: Ref. zh. Fizika, Abs. 9D592

REF. SOURCE: Uch. zap. Kishinevsk. un-t, v. 75, 1964, 35-38

TOPIC TAGS: light absorption, gallium optic material, selenide, telluride, absorption spectrum, optic coating, absorption edge, activation energy

TRANSLATION: An investigation was made of the properties of several alloys of the Ga_2Te_3 -- Ga_2Se_3 system. Absorption spectra of thin layers of alloys of this system, obtained by the method of evaporating sintered bulk crystals in high vacuum, are presented. The substrate temperature was taken to be sufficiently high to obtain a layer with

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L 23812-66

ACC NR: AR6005204

crystalline structure. To obtain reproducible results, the layers were subjected to prolonged annealing in vacuum at temperatures which differed with the composition. The values of the photon energy ΔE_c, corresponding to the absorption edges, were calculated. The obtained dependence of the optical activation energy on the composition of the thin layers of the Ga_2Te_3 -- Ga_2Se_3 system indicates that the layers, in all probability, are solid solutions of the corresponding compositions. Bibliography, 12 titles. L. Trofimova.

SUB CODE: 20

Card 2/2

L 23816-66 EWT(m)/ETC(f)/EWG(m)/EWP(t) IJP(c) RDW/JD/JG

ACC NR: AR6005199 SOURCE CODE: UR/0058/65/000/009/D033/D033

AUTHOR: Gramatskiy, V. I.

TITLE: Optic and photoelectric properties of single crystals of GaTe

SOURCE: Ref. zh. Fizika, Abs. 9D268

REF. SOURCE: Uch. zap. Kishinevsk. un-t, v. 75, 1964, 39-42

TOPIC TAGS: gallium optic material, gallium compound, telluride, optic property, photoelectric property, single crystal, absorption edge, forbidden band, spectral distribution, line shift

TRANSLATION: The author investigated the absorption and photoconductivity of single crystal GaTe at temperatures 375, 295, 200, and 110K in the range 0.6 -- 1 μ. The samples for the investigation were made by cleavage of plates 50 -- 150 μ thick from large single crystals of high purity. The optical width of the forbidden band of GaTe was determined from the position of the red edge of the intrinsic absorption and found to be 1.39 ev at 295K. The spectral

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L 23816-66

ACC NR: AR6005199 O

dependence of the photoconductivity at room temperature has a maximum at 0.73 μ, which shifts towards shorter wavelengths with decrease in temperature. The temperature coefficient of variation of the width of the forbidden band (α), determined from the shift of red edge of the photoconductivity, is in good agreement with the value $\alpha = 3.8 \times 10^{-4}$ ev/deg obtained from the absorption spectra.
I. Shaganov.

SUB CODE: 20

Card 2/2 FV

L 33753-66 EWT(m)/EWP(t)/ETI IJP(c) RDW/JD/JG

ACC NR: AR6016779 SOURCE CODE: UR/0081/65/000/023/B073/B073

AUTHOR: Mushinskiy, V. P.; Mushinskaya, K. M.; Gramatskiy, V. I.

49
B

TITLE: Optical absorption in thin layers of the Ga_2Te_3-Ga_2Se_3 system

SOURCE: Ref. zh. Khimiya, Abs. 23B532

REF SOURCE: Uch. zap. Kishinevsk. un-t, v. 75, 1964, 35-38

TOPIC TAGS: germanium, germanium based alloy, tellurium containing alloy, selenium containing alloy, absorption spectrum

ABSTRACT: Absorption spectra of thin alloy layers of the Ga_2Te_3-Ga_2Se_3 system obtained by evaporation in vacuum of large fused crystals were studied. Condensed layers of over 3μ thick were calcinated in vacuum. The energy of E_c photons corresponding to the boundary of absorption were calculated. ΔE_c changes linearly with the composition change from 0 to 75 mol% of Ga_2Se_3. The relationship obtained between the activation energy and the composition indicates that the layers are solid solutions. L. Trofimova.

SUB CODE: 11, 20/ SUBM DATE: none

Card 1/1 BLG

ACC NR: AR7000874 SOURCE CODE: UR/0058/66/000/009/E077/E078

AUTHOR: Mushinskiy, V. P.; Gramatskiy, V. I.

TITLE: Summary of the investigation of optical and photoelectric properties of some A^{III}--B^{VI} type systems

SOURCE: Ref. zh. Fizika, Abs. 9E630

REF SOURCE: Uch. zap. Kishinevsk. un-t, v. 80, 1965, 99-102

TOPIC TAGS: optic property, photoelectric property, crystal lattice parameter, aluminum selenide, indium selenide, gallium telluride

ABSTRACT: A brief description is presented of the main results of an investigation of A^{III}--B^{VI} systems usually producing $A_2^{III}B_3^{VI}$ compounds most of which crystallize with the formation of zinc blende type lattice. Tn analysis was made of the electrical, galvanomagnetic, thermoelectric and particularly optical and photoelectric properties of such systems as Al—Se, In—Se, Ga—Te and the corresponding Al_2Se_3, In_2Se_3, Ga_2Te_3 and GaTe compounds. The main parameters of these compounds were determined. Considerable emphasis was placed on the

Card 1/2

ACC NR: AR7000874

study of solid solutions based on binary compounds $A_2^{III}B_3^{VI}$: such as Ga_2Te_3—Ga_2Se_3, Ga_2Te_3—In_2Te_3, Ga_2Te_3—Ga_2S_3 and others. F. Nad'. [AM]
[Translation of abstract]

SUB CODE: 20/

Card 2/2

MUSHINSKIY, V.P.; GRAMATSKIY, V.I.; MANUSHEVICH, G.N.

Optical and photoelectric properties of thin Ga_2Te_3 films.
Izv.vys.ucheb.zav.; fiz. no.3:172-178 '63. (MIRA 16:12)

1. Kishenevskiy gosudarstvennyy universitet.

GRAMATYKA, Jerzy, mgr inz.; NOSKOWSKI, Jerzy, mgr inz.

Mining thick seams by slicing layer by layer from the top and the use of an artificial roof. Przegl gorn 18 no.11:612-617 N '62.

GRAMATYKA, Jerzy, mgr inz.; NOSKOWSKI, Jerzy, mgr inz.

The unit CBKMG-2 and the new wage system for workers employed in coal headings of the Slupiec mine. Wiadom gorn 13 no.6:199-201 Je '62.

S/137/62/000/008/058/065
A006/A101

AUTHOR: Grambal, Jindřich

TITLE: A method of soldering sintering carbides

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 8, 1962, 60, abstract 8E418 P (Czechosl. Patent no. 99095 of March 15, 1961)

TEXT: On soldered surfaces of carbide plates, sintered with Co, 0.03 - 0.05 mm thick galvanic Co-coatings are applied prior to soldering. They are then soldered-on with Cu, which wets Co satisfactorily and forms with Co a Co-bronze layer, which is stronger than Cu by a factor of 4. Surfaces which are not Co-treated can be protected with aceton varnish. An instrument with a plate, soldered-on in such a manner, eliminates the heat from the blade and is more efficient and durable.

Ye. Greyl'

[Abstracter's note: Complete translation]

Card 1/1

Gramberg, I.S.

USSR

Genetic classification of natural waters. N. S. Spiro, I. S. Gramberg, and Ts. L. Vovk. *Doklady Akad. Nauk S.S.S.R.* 93, 531–4(1953).—For the graphic projection of the chem. compn. of natural waters the same method was used which had previously been used by Kashkarov (cf. *C.A.* 34, 1136⁸) and Valyashko (*Trudy Vsesoyuz. Nauch. Issledovatel. Inst. Galurgii* 23, 13(1952)) for salt lake brines. The projection is given by a rectangular triangle with the mols. $[Na_2CO_3 + Na_2(HCO_3)_2]$, $MgSO_4$, $CaCl_2$ in the apexes, and the mols. Na_2Cl_2, Na_2SO_4, $MgCl_2$ in the middle of the sides. This graph includes the system $[Na_2CO_3 + Na_2(HCO_3)_2]$–$Na_2Cl_2$–$Na_2SO_4$–$H_2O$; the reciprocal system (Na_2^{++}, Mg^{++})–(Cl_2^{--}, SO_4^{--})–H_2O; and Na_2Cl_2–$CaCl_2$–$MgCl_2$–HgO. Very characteristic is the projection of the analyses of ocean water, that from the Black Sea, the Dead Sea, the anomalous chloride waters of the Rivers Amu-Darya and Syr-Darya in Central Asia, the positions of the points for petroleum-brine waters along the side $[Na_2CO_3 + Na_2(HCO_3)_2]$–$Na_2Cl_2$–$CaCl_2$. Further, the diagram shows the "degeneration" of sea water in the Caspian Sea and Lake Aral by the inflow of river water. A second projection shows the compn. of *silts* from the Black Sea and some Asian lakes and soils, with a strong enrichment in $MgSO_4$. W. Eitel

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(2)

Arctic Sci Rev Myt. Geol

GRAMBERG, I. S.

USSR/Minerals - Argillaceous minerals

Card 1/1 Pub. 22 - 42/50

Authors : Spiro, N. S.; Gramberg, I. S.; and Vovk, Ts. L.

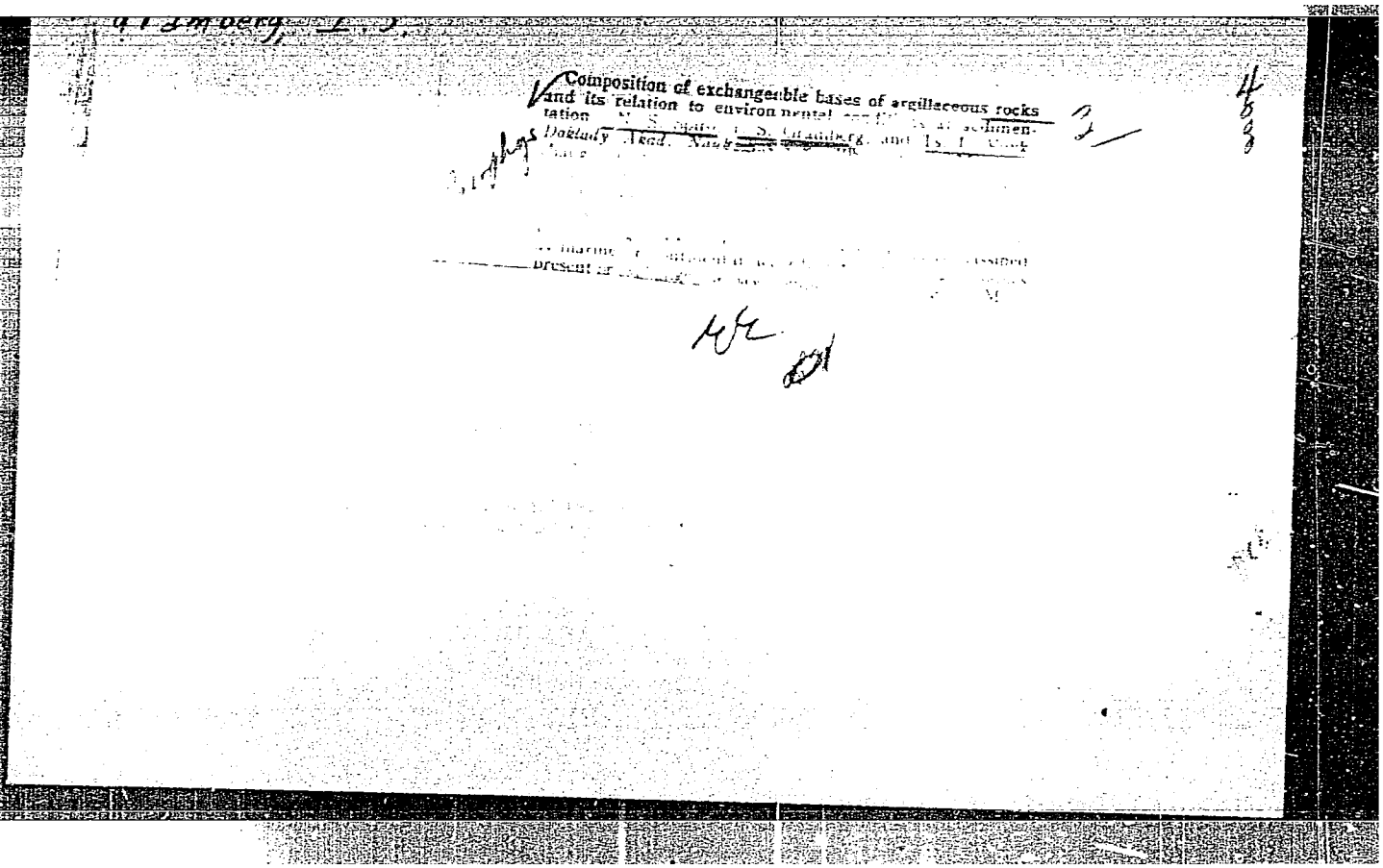
Title : Changes in chemical composition of argillaceous minerals

Periodical : Dok. AN SSSR 100/1, 159-161, Jan. 1, 1955

Abstract : Mineralogical data are presented regarding the changes occurring in the chemical composition of argillaceous (clayey) minerals. Two USSR references (1931 and 1951). Diagram.

Institution : The Arctic Scientific Research Institute of Geology

Presented by: Academician S. I. Mironov, June 3, 1954



Composition of exchangeable bases of argillaceous rocks and its relation to environmental

SPIRO, N.S.; GRAMBERG, I.S.; VOVK, TS.L.

Method for a comparative study of the chemical composition of terrigenous sedimentary rocks. Trudy Nauch.-issl. inst. geol. Arkt. 86:9-112 '56. (MIRA 10:3)

(Rocks, Sedimentary--Analysis) (Geochemistry)

GRAMBERG, Igor' Sergeyevich; VORONOV, P.S., red.; DAYEV, G.A., vedushchiy red.; GENNAD'YEVA, I.M., tekhn.red.

[Stratigraphy and lithology of Permian sediments in the northeastern part of the Siberian Platform in connection with their oil and coal potentials] Stratigrafiia i litologiia permskikh otlozhenii severo-vostochnogo kraia Sibirskoi platformy v sviazi s ikh neftenosnost'iu i uglenosnost'iu. Leningrad. Gos.nauchno-tekhn.izd-vo neft.i gornotoplivnoi lit-ry Leningr. otd-nie, 1958. 215 p. Leningrad, Nauchno-tekhn. izd-vo neft.i gorno-toplivnoi lit-ry, Leningr. otd-nie, 1958. 215 p. (Leningrad. Nauchno-issledovatel'skii institut geologii Arktiki. Trudy, vol. 84). (MIRA 15:8)
(Siberian Platform—Petroleum geology)
(Siberian Platform—Coal geology)

RAVICH, M.G.; VAKAR, V.A.; GRAMBERG, I.S.

Concerning A.M. Daminova's article "Age of the crystalline schist complex in the Taymyr Peninsula" ("Sovetskaia Geologiia," no.58, 1957). Sov. geol. 1 no.3:130-132 Mr '58. (MIRA 11:5)

1. Nauchno-issledovatel'skiy institut geologii Arktiki.
(Taymyr Peninsula--Schists)

GRAMBERG, I.S.

Geochemical research as a method of prospecting for genetic indications of oil-forming layers as exemplified by the geochemical studies in the Arctic regions of the U.S.S.R. Trudy NIIGA 92:171-182 '58. (MIRA 13:4)
(Russia, Northern--Geochemical prospecting)

RAVICH, M.G.; VAKAR, V.A.; GRAMBERG, I.S.

Concerning A.M.Daminova's article "More on the age of the crystalline schist complex in the Taymir Peninsula" (Sovetskaia geologiia," no.6, 1958). Inform.biul.NIIGA no.11:77-80 '58. (MIRA 12:6)

(Taymir Peninsula--Schists)

SAKS, Vladimir Nikolayevich; GRAMBERG, I.S.; RONKINA, Z.Z.; APIONOVA, E.N.; SPIZHARSKIY, T.N., nauchnyy red.; KELAREV, L.A., vedushchiy red.; GENNAD'YEVA, I.M., tekhn.red.

[Mesozoic sediments in the Khatanga Depression] Mezozoiskie otlozheniia Khantangskoi vpadiny. Leningrad, Gos. nauchno-tekhn.izd-vo neft.i gorno-topl.lit-ry Leningr.otd-nie. 1959, 225 p. (Leningrad. Nauchno-issledovatel'skii institut geologii Arktiki. Trudy, vol.99) (MIRA 12:6)

(Siberia, Northern--Geology)

GRAMBERG, I.S.; APLONOVA, E.N.

Basic results of field lithostratigraphic investigations of Permian sediments in the central Kharaulakh Mountains. Inform. biul. NIIGA no.13:16-22 '59. (MIRA 13:5)
(Kharaulakh Mountains--Geology, Stratigraphic)

GRAMBERG, I.S.; SPIRO, N.S.

Experience in using geochemical data for the correlation and facies analysis of Permian sediments in the Khatanga Depression. Trudy NIIGA 98:5-35 '59. (MIRA 13:5)
(Siberia, Eastern--Geology, Stratigraphic)
(Geochemistry)

GRAMBERG, I.S.

Interrelations between Permian and Triassic sediments in the northern part of central Siberia. Trudy NIIGA 65:44-51 '59.
(MIRA 13:12)

(Siberia--Sediments (Geology))

GRAMBERG, I.S.; APLONOVA, E.N.

Rhythms of stratification of Triassic sediments of the central Kharaulakh Range. Trudy NIIGA 65:52-56 '59. (MIRA 13:12)
(Kharaulakh Range--Geology, Stratigraphic)

SPIRO, N.S.; GRAMBERG, I.S.

Relationship between the carbonate content of clay rocks and the facies conditions of sediment formation. Trudy NIIGA 98:73-76 '59. (MIRA 13:5)
(Clay--Analysis) (Sedimentation and deposition)
(Carbonates)

SPIRO, N.S.; GRAMBERG, I.S.; VOVK, TS.L.

Use of manganese for the reconstruction of oxidation-reduction potential during the period of sediment formation. Trudy NIIGA 98:90-100 '59. (MIRA 13:5)
(Sedimentation and deposition)
(Oxidation-reduction reaction)

YEMEL'YANTSEV, Tikhon Matveyevich; KRAVTSOVA, Aleksandra Ivanovna; PUK, Pinkhos Solomonovich; GRAMBERG, I.S., nauchnyy red.; DAYEV, G.A., vedushchiy red.; YASHCHURZHINSKAYA, A.B., tekhn.red.

[Geology, and oil and gas potentials of the lower Lena Valley] Geologiia i perspektivy neftegazanosnosti nizov'ev r. Leny. Leningrad. Gos.nauchn.-tekhn. izd-vo nefti i gorno-toplivnoi lit-ry. Leningr. otd-nie, 1960. 143 p. (Leningrad. Nauchno-issledovatel'skii institut geologii Arktiki. Trudy, vol. 108) (MIRA 13:2)
(Lena Valley--Petroleum geology)
(Lena Valley--Gas, Natural--Geology)

GRAMBERG, Igor' Sergeyevich; SPIRO, Nikolay Semenovich; APLONOVA, Evelina Nikolayevna; SAKS, V.N., nauchnyy red.; DESHALYT, M.G., vedushchiy red.; GENNAD'IEVA, I.M., tekhn.red.

[Stratigraphy and lithology of Permian sediments in the northern part of the Khatanga Depression in connection with its oil potential] Stratigrafiia i litologiia permskikh otlozhenii severnoi chasti Kahtangskoi vpadiny v sviazi s problemoi neftenosnosti. Leningrad. Gos.nauchn.-tekhn.izd-vo neft.i gorno-toplivnoi lit-ry.Leningr.otd-nie, 1960. 172p. (Leningrad Nauchno-issledovatel'skii institut geologii Arktiki. Trudy, vol.71) (MIRA 13:2)
(Khatanga region--Petroleum geology)

SPIRO, N.S.; GRAMBERG, I.S.

Composition of the adsorbed complex of argillaceous rocks as indicator of the conditions prevailing during the early stage of sediment formation. Geol. i geofiz. no.9:30-34 '61. (MIRA 14:11)

1. Nauchno-issledovatel'skiy institut geologii Arktiki, Leningrad.
(Geochemistry) (Clay) (Adsorption)

GRINBERG, I.S.; KALINKO, M.K.; PUK, P.S.; SOROKOV, D.S.

Further trends in oil prospecting in the basic promising regions of northern Siberia. Trudy NIIGA 12:95-101 '61. (MIRA 14:10)

(Russia, Northern—Petroleum geology)

GRAMBERG, I.S.

Chemical paleohydrology of the north of central Siberia in the Permian. Trudy Inst. geol. i geofiz. Sib. otd. AN SSSR no.28: 5-15 '64. (MIRA 17:11)

GRAMBERG, I.S.; SPIRO, N.S.

Reconstruction of the hydrochemical conditions of ancient sea basins based on geochemical indications. Metod. paleogeog.issl. no.1:6-15 '64. (MIRA 18:6)

GRAMBERG, I.S.; SPIRO, N.S.; POPOV, Yu.N., red.; PETROVA, Ye.M., red.

[Paleohydrogeochemistry of the northern part of Central Siberia in the Late Paleozoic and Mesozoic.] Paleogidrokhimiia severa Srednei Sibiri v pozdnem paleozoe i mezozoe. Moskva, Nedra, 1965. 119 p. (Leningrad. Nauchno-issledovatel'skii institut geologii Arktiki. Trudy, vol. 142).

(MIRA 18:8)

GRAMBERG, I.S.

Stratigraphy of Triassic sediments in the Tsvetkov Cape (Eastern Taymyr). Uch. zap. NIIGA. Reg. geol. no.2:5-29 '64. (MIRA 19:1)

YANOV, E.N.; STRAKHOV, N.M.; KRASHENNIKOV, G.F.; ARUSTAMOV, A.A.; GEYSLER, A.N.; GRAMBERG, I.S.; LIBROVICH, V.L.; MIKHAYLOV, B.M.; NEKRASOVA, O.I.; PISARCHIK, Ya.K.; POLOVINKINA, Yu.I.; TATARSKIY, V.B.; SHUMENKO, S.I.

Reviews and discussions. Lit. i pol. iskop. no.6:85-89 and 91-119 N-D '65. (MIRA 18:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologicheskiy institut, Leningrad. (for Yanov). 2. Geologicheskiy institut AN SSSR, Moskva. Submitted July 12, 1965 (for Strakhov). 3. Moskovskiy gosudarstvennyy universitet (for Krashennikov). 4. Kazakhskiy nauchno-issledovatel'skiy institut mineral'nogo syr'ya, g. Alma-Ata (for Arustamov).

L 25845-66

ACC NR: AR5018682 SOURCE CODE: UR/0196/65/000/007/V005/V005

AUTHOR: Labudo, A.A; Nekrashevich, I.G.; Plashchinskaya, R.V.; Orakov, V.Ye.; Yermakova, N.Ye.

ORG: none

TITLE: Measuring the temperature in a pulse discharge

SOURCE: Ref. zh. Elektrotekhnika i energetika, Abs. 7B20

REF SOURCE: Tr. Komis. po spektroskopii. AN SSSR, vyp. 1, 1964, 434-441

TOPIC TAGS: ~~measuring instrument~~, temperature instrument, optic method, temperature measurement, pulse discharge

TRANSLATION: The optical method for determining high temperatures in stationary sources with axial symmetry (by the Horman-Larens method) is extended to cover cases of pulse discharge. A device was prepared on which experimental research was conducted on the space and time distribution of temperature, taking into account the fact that the process was nonstationary. An earlier deduction regarding the zonal character of excitation and of identifying various spectral lines was confirmed. (From a resume).

SUB CODE: 20/ SUBM DATE: none

Card 1/1

UDC: 537.523.4.536.521

GRAMBOR, E. inz.; MARCINIAK, A.

The Toolmaking Work in Pabianice. Mechanik 35 no.10:576 O '62.

GRAMENITSKAYA, N.A.

Conditions governing the formation of river valleys in Maritime Territory. Geog.sbor. L'vov.otd.Geog.ob-va SSSR no.8:122-128 '64. (MIRA 18:5)

USSR/Medicine - Garlic
Medicine - Phytoncides
May 49

"Bacteriological Diseases of Garlic," V. G. Gramenitskaya, 1 p

"Prirody" No 5

Inst of Applied Zool and Phytopath conducted research to determine action of phytoncides on phytogenic bacteria. Found garlic was source of strongest universal phytoncides. Experiments involved infection of garlic with bacteria. Occurrence of infection in such a powerful source of phytoncides indicates potentiality of vide

57/49T59

USSR/Medicine - Garlic (Contd)
May 49

application of bacteria. Swelling formed on garlic 7 - 10 days after administration of bacteria, and Penicillium was found on the surface of the swelling. Bacteria infecting garlic are gram positive, sporiferous with hooked ends, and are aerobic. Investigations will continue.

57/49T59

GRAMENITSKAYA V. G.

GRAMENITSKAYA, V. G.

Effects of ginseng on microorganisms. V. G. Gramenitskaya and I. V. Grushvitskiĭ (V. L. Komarov Botan. Inst., Leningrad). *Mikrobiologiya* 25, 221–6(1956).—Liquid from young ginseng roots or sprouts is an active protistocide and rapidly inactivates or kills protozoa (*Glaucoma scintillans*). Tests with bacterial cultures (*Bacillus megatherium*, *Serratia marcescens* and organisms of garlic root) showed that both the volatile fractions and the root liquid are stimulants. Infusions in aq. alc. from leaves, blossoms and rootlets had bactericidal activity, while infusions from the main root, dried sprouts and stems acted as mild stimulants.

Julian F. Smith

2

[illegible]SKAYA, V. N.

chem

Synthesis of 2,2,3 [illegible]
5,6 6-tetramethyl-2-carb[illegible]
tetramethyl 4-hepten[illegible]
[illegible]
dation with KMnO₄ ga[illegible]
dimethylsuccinic acid [illegible]
184 g. ester and [illegible]
trimethyl-3-chloro-4-hexene [illegible]
at 180-8° yielding [illegible]
tetramethyl [illegible]
[illegible]
the acid at 180° at [illegible]
heptenoic acid, b[illegible], n_D^{20} 1.4621, [illegible] its Ag salt
was prepd. and analyzed. Oxidation [illegible] KMnO₄ gave
pinacolone.

PETROV, A.D.; NIKISHIN, G.I.; GRAMENITSKAYA, V.N.; VOROB'YEV, V.D.

Interaction between β-(magnesium chloride)-tert.-butyl-benzene with carbonyl compounds. Zhur.ob.khim. 28 no.9:2315-2319 S '58. (MIRA 11:11)

1. Institut organicheskoy khimii AN SSSR.
(Benzene) (Grignard reagents) (Carbonyl compounds)

GRAMENITSKAYA, V. N.

AUTHORS: Gramenitskaya, V. N., Nikishin, G. I., Petrov, A. D., 20-3-22/59
Corresponding Member AN USSR

TITLE: The Condensation of Alkyl Benzenes With Halide Derivatives of Isobutylene (Kondensatsiya alkilbenzolov s galoidproizvodnymi izobutilena).

PERIODICAL: Doklady AN SSSR, 1958, Vol. 118, Nr 3, pp. 497-500 (USSR)

ABSTRACT: After a survey of single reactions of the alkylation of aromatic hydrocarbons using sulfuric acid as catalyst (ref.s 1-5) the authors report on the synthesis of alkyl-aromatic hydrocarbons plus derivatives with branched alkyl radicals containing quaternary carbon atoms. The condensation of the metallylchloride with alkylbenzenes was carried out. The conditions of reaction and the yields are shown in table 1, the properties of the substances produced are mentioned in table 2. The yields amount to 64-98% and depend on the consecutive order of the addition of reagents. The amount of sulfuric acid (catalyst) and the temperature value are essential. Only in one case it was possible to isolate a solid crystalline substance(p(β-chloro-tertiary butyl) tertiary butylbenzene. The liquid residue and all other (β-chloro-tertiary butyl)alkyl benzenes are, as is shown by their infrared spectra, a mixture of p- and m- isomers which could be se-

Card 1/2

The Condensation of Alkyl Benzenes With Halide Derivatives of Isobutylene. 20-3-22/59

parated neither by fractionating nor by freezing out. With other methods of separation it was possible to isolate tereph - thalic acid only. From the results of oxidation can b e assumed that the m-isomers are formed in very small quantities. Furth- eron it was found that from a chloro-alkylation of an equi- molar mixture of benzene and cumene by metallylchloride β-chlo- ro-tertiary-butylbenzene and β-chloro-tertiary-butyl-kumol are formed in about the same quantities. From the reactions of the condensation of benzene and tertiary butylbenzene with isokrot- ylbromide no substantial yields could be obtained. In the cond- ensation reaction of benzene with 3-chloro-2-chloromethyl-pro- pene-1 the main subatance of the latter remains unchanged. From 8-6% of 1,3-dichloro-2 methyl-2-phenylpropane are formed. All β-chloro(or bromo-)tertiary butylalkylbenzenes easily and with good yields form magnesium-organic compounds,which again can be successfully used in the reaction of Grignard.-An experimental part with the usual data follows. There are 2 tables, 12 refer- ences, 1 of which is Slavic.

ASSOCIATION: Institute for Organic Chemistry imeni N.D.Zelinskiy AN USSR(In- stitut organicheskoy khimii im.N.D.Zelinskogo Akademii nauk SSSR)

SUBMITTED: June 28, 1957

AVAILABLE: Library of Congress

Card 2/2

5(3)

AUTHORS: Gramenitskaya, V. N., Nikishin, G. I., Petrov, A. D., Corresponding Member, AS USSR

SOV/20-128-3-29/58

TITLE: Condensation of Tertiary Halogen Alcohols With Benzene Under the Action of Sulphuric Acid

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 3, pp 540-542 (USSR)

ABSTRACT: The authors did not succeed in applying the reaction of halogen alkylation to some dichloro-olefines. Also a condensation of the latter with benzene in the presence of H_2SO_4 was not possible (Ref 2). The present investigation studies the halogen alkylation of benzene with tertiary halogen alcohols by several examples. Table 1 shows the reaction conditions, the structure of the alcohols, the quantitative ratio of the reactants, and the yields. Table 2 indicates the properties of the condensation products. The authors did not succeed in carrying out the condensation of 1-chloropropanol-2 with benzene into 1-chloro-2-phenyl propane, even within 6 hours and with the participation of 90% H_2SO_4 and the substances mentioned. In the homologous series of the tertiary monochloro-alcohols, the authors succeeded in obtaining chloro-alkylation products only with

Card 1/2

SOV/20-128-3-29/58

Condensation of Tertiary Halogen Alcohols With Benzene Under the Action of Sulphuric Acid

$ClCH_2C(CH_3)_2OH$ and $ClCH_2CH_2CH_2C(CH_3)_2OH$. The authors ascertained that the best yields are obtained by use of 90% H_2SO_4. Both weaker and stronger concentrations reduce the yields. There are 2 tables and 9 references, 2 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii Akademii nauk SSSR
(Institute of Organic Chemistry of the Academy of Sciences, USSR)

SUBMITTED: June 8, 1959

Card 2/2

GRAMENITSKAYA, V. N., Cand Chem Sci -- (diss) "Haloidalkylation of a number of benzene compounds." Moscow, 1960. 15 pp; (Academy of Sciences USSR, Inst of Organic Chemistry im N. D. Zelinskiy); 180 copies; price not given; (KL, 23-60, 121)

5.3400, 5.3700

78268
SOV/79-30-3-22/69

AUTHORS: Petrov, A. D., Nikishin, G. I., Gramenitskaya, V. N., Nevolin, F. V., Kral'-Osikina, G. A.

TITLE: Synthesis and Properties of Acid Salts and Salts of Alkyl Sulfates Containing Alkylaromatic Hydrophobic Radicals

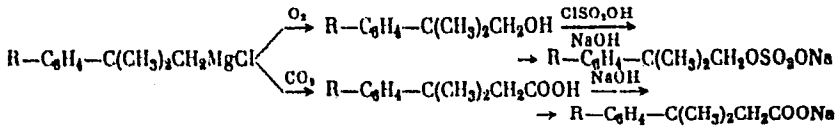
PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 3, pp 845-849 (USSR)

ABSTRACT: This work was devoted to synthesis and study of the surface-active properties of sodium salts prepared from acids and sulfate esters. The following compounds of two types were synthesized: $R\text{-}C_6H_4\text{-}C(CH_3)_2(CH_2X$ and $(CH_3)_2C_6H_3C(CH_3)_2CHX$, where X = COONa and $-OSO_2ONa$. The following reactions were used for synthesis of salts:

Card 1/6

Synthesis and Properties of Acid Salts and Salts of Alkyl Sulfates Containing Alkylaromatic Hydrophobic Radicals

78268
SOV/79-30-3-22/69



The properties of the obtained alcohols and acids are shown in Table 1. The prepared salts and their surface-active properties are shown in Table 2. The above salts containing benzene rings in their alkyl chains were synthesized for the first time. It was established that introduction of a benzene ring decreases the detergent properties of salts. There are 2 tables; and 5 references, 2 Soviet, 2 German, 1 U.S. The U.S. reference is: Weisgerber, C. A., Shabica, A. S., J. Am. Chem. Soc., 65, 1469 (1943).

ASSOCIATION: Institute of Organic Chemistry of the Academy of Sciences of the USSR and All-Union Scientific Research Institute of Fats (Institut organicheskly khimii

Card 2/6

Synthesis and Properties of Acid Salts and Salts of Alkyl Sulfates Containing Alkylaromatic Hydrophobic Radicals

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SOV/79-30-3-22/69

Table 1. (1) Nr of compound; (2) formula of compound; (3) yield (%); (4) temperature; (5) bp (pressure in mm); (6) mp; (7) found; (8) calculated.

Table on card 4/6

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1	2	3	4				MR$_D$	
			5	6	d_4^{20}	n_D^{20}	7	8
(I)	$C_6H_5C(CH_3)_2CH_2OH$	68	115—117° (20)	—	0.9969	1.5257	46.23	46.57
(II)	$CH_3C_6H_4C(CH_3)_2CH_2OH$	54	116—117 (12)	—	0.9817	1.5226	51.06	51.22
(III)	$C_2H_5C_6H_4C(CH_3)_2CH_2OH$	71.7	119—121 (6)	—	0.9692	1.5182	55.75	55.88
(IV)	$(CH_3)_2CHC_6H_4C(CH_3)_2CH_2OH$	60	—	59.5—60°	—	—	—	—
(V)	$2,4\text{-}(CH_3)_2C_6H_3C(CH_3)_2CH_2OH$	55	90—92 (2)	—	0.9853	1.5312	55.99	55.88
(VI)	$3,4\text{-}(CH_2)_4C_6H_3C(CH_3)_2CH_2OH$	65	118—119 (1)	—	1.0284	1.5500	63.29	63.11
(VII)	$C_6H_5C(CH_3)_2CH_2COOH$	63	—	58—59	—	—	—	—
(VIII)	$CH_3C_6H_4C(CH_3)_2CH_2COOH$	65	—	74.5—75.5	—	—	—	—
(IX)	$C_2H_5C_6H_4C(CH_3)_2CH_2COOH$	65	—	72—73	—	—	—	—
(X)	$(CH_3)_2CHC_6H_4C(CH_3)_2CH_2COOH$	68	—	60—61	—	—	—	—
(XI)	$n\text{-}(CH_3)_3CC_6H_4C(CH_3)_2CH_2COOH$	77	—	115	—	—	—	—
(XII)	$3,4\text{-}(CH_2)_4C_6H_3C(CH_3)_2CH_2COOH$	67	—	88	—	—	—	—
(XIII)	$2,4\text{-}(CH_3)_2C_6H_3C(CH_3)_2CH_2COOH$	60	—	75—76	—	—	—	—

Card 4/6

Synthesis and Properties of Acid Salts and Salts of Alkyl Sulfates Containing Alkylaromatic Hydrophobic Radicals

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Table 2. (1) Structure of salt; (2) detergent properties (salt concentration, 0.25%); (3) surface tension (dynes/cm) at concentration (in %).

1	2	3			
		0.5	0.25	0.125	0.063
$C_6H_5C(CH_3)_2CH_2COONa$	3.5	71.1	72.5	72.8	72.8
$CH_3C_6H_4C(CH_3)_2CH_2COONa$	3.0	57.3	62.4	68.8	71.5
$C_2H_5C_6H_4C(CH_3)_2CH_2COONa$	3.0	59.6	62.5	67.2	70.2
$(CH_3)_2CHC_6H_4C(CH_3)_2CH_2COONa$	3.7	45.9	51.9	56.8	62.2
$2,4-(CH_3)_2C_6H_3C(CH_3)_2CH_2COONa$	2.6	63.5	66.8	70.8	71.1
$C_6H_5C(CH_3)_2CH_2OSO_2ONa$	2.4	40.6	43.9	53.2	56.5
$CH_3C_6H_4C(CH_3)_2CH_2OSO_2ONa$	3.2	72.8	72.8	72.8	72.8
$C_2H_5C_6H_4C(CH_3)_2CH_2OSO_2ONa$	3.0	60.5	65.5	69.8	71.1
$(CH_3)_2CHC_6H_4C(CH_3)_2CH_2OSO_2ONa$	3.4	57.8	64.8	69.8	71.1
Жесткая вода	2.7				
$н.-CH_3(CH_2)_8COONa$	—	32.6	44.5	63.6	70.9
$н.-CH_3(CH_2)_{10}COONa$	—	25.5	38.0	57.8	—
$н.-CH_3(CH_2)_{12}COONa$	—	34.9	37.5	46.7	—
$н.-CH_3(CH_2)_{10}CH_2OSO_3Na$	—	39.1	36.7	—	44

Card 5/6

Synthesis and Properties of Acid Salts and Salts of Alkyl Sulfates Containing Alkylaromatic Hydrophobic Radicals

78268
SOV/79-30-3-22/69

Akademii nauk SSSR i Vsesoyuznyy nauchno-issledovatel'skiy institut zhirov)

SUBMITTED: March 30, 1959

Card 6/6

GRAMENITSKAYA, Ye.S.

Experimental data on heat exchange in fever and dinitrophenol hyperthermia. Biul. eksp. biol. i med. 53 no.2:72-74 F '62.
(MIRA 15:3)

1. Iz kafedry obshchey patologii Leningradskogo ordena Lenina instituta usovershenstvovaniya vrachey imeni S.M. Kirova (dir. - dotsent A.Ye. Kiselev) nauchnyy rukovoditel' raboty - chlen-korrespondent AMN SSSR prof. P.N. Veselkin). Predstavlena deystvitel'nym chlenom AMN SSSR A.V. Lebedinskim.
(PHENOL) (FEVER)

GRAMENITSKAYA, Ye.S.

Correlation of data on direct and indirect calorimetry in dinitrophenol intoxication and fever. Pat. fiziol. i eksp. terap. 9 no.3:30-34 My-Je '65. (MIRA 18:9)

1. Otdel obshchey patologii (zav.- chlen-korrespondent AMN SSSR prof. P.N. Veselkin) Instituta eksperimental'noy meditsiny AMN SSSR, Leningrad.

USSR/Farm Animals. General Problems Q-1

Abs Jour : Ref Zhur - Biol., No 19, 1958, No 87999

Author : Granenitskiy A.S.
Inst : -
Title : Animal Husbandry in the Golodnaya Steppe

Orig Pub : Materialy po proizvodit. sil Uzbekistana, 1957, No 6, 265-272

Abstract : No abstract

Card : 1/1

USSR / Human and Animal Physiology. Growth Physiology. T

Abs Jour: Ref Zhur-Biol., No 9, 1958, 40888.

Author : Gramenitskiy, B. A.
Inst : Yaroslavl Agricultural Institute.
Title : Investigations of the Growth of Some Mammals During the Neonatal Period.

Orig Pub: Tr. Yaroslavsk. s-kh in-ta, 1956, 3, 131-138.

Abstract: The dynamics of the general growth (weight) were investigated for a period of 10-12 days in 15 newborn dogs, 43 rabbits, 164 pigs and 45 calves. The growth of the newborn was not uniformly constant. Slight disturbances in the feeding of the mothers caused slowing down or arrest of the growth of the offspring. The greatest number of cases of lowered or arrested growth in animals occurred on the second postnatal day, (as in man) and in later

Card 1/2

BAGRATUNI, G.V.; BOL'SHAKOV, N.N.; BRUYEVICH, N.I.; BUBNOV, I.A.; GRAMENITSKIY, D.S.; IZOTOV, A.A.; MAZMISHVILI, A.I.; MODRINSKIY, N.I.; SALYAYEV, S.A.; FLORENT'YEV, V.B.; FOMIN, P.M.

Nikolai Fedorovich Bulaevskii; obituary. Izv.vys.ucheb.zav.; geod.i aerof. no.6:121-122 '61. (MIRA 15:3)
(Bulaevskii, Nikolai Fedorovich, 1882-1961)

USSR/Physics - Photography FD-1496

Card 1/1 : Pub. 146-19/20

Author : Gramenitskiy, I. M. and Podgoretskiy, M. I.

Title : Determination of time of regression and of the shrinkage coefficient of thick-layer photo emulsions

Periodical : Zhur. eksp. i teor. fiz, 27, 389-390, Sep 1954

Abstract : Measures the shrinking coefficient for 30 traces of alpha particles from radioactive stars and obtains k = 2.7 + 0.3 and corrects the errors in alpha traces. Indebted to M. F. Solov'yeva and N. M. Gryzunova for measurements. Three foreign references.

Institution : Physics Institute imeni Lebedev, Acad Sci USSR

Submitted : February 18, 1954

USSR/Physics - Cosmic rays FD-995

Card 1/1 Pub. 146 - 19/20

Author : Gramenitskiy, I. M.; Yemel'yanova, G. S.; and Podgoretskiy, M. I.

Title : Problem of the effect of connected fissions in cosmic rays

Periodical : Zhur. eksp. i teor. fiz., 27, No 5 (11), 654-655, Nov 1954

Abstract : The authors analyze 820 "stars" found during an examination of 380 cm^2 of emulsion 200 microns thick exposed at an altitude of about 15 km, and discuss the observed effect of connected "stars" for distances less than 0.5 mm. They note that the effect turns out to be approximately the same as found by Leprince-Renguet and Heidman (Nature, 161, 1948) and by Li and Perkins (Nature, 161, 1948). Here the authors consider not only "binaries" but also "trinaries", in contrast to previous investigators. The authors note Zh. S. Takibayev's suggestion (Zhur. eksp. i teor. fiz., 24, 636, 1953) that pairs of photoplates moving relatively to each other be employed to determine the moment of time corresponding to the flight of charged particles through the emulsion, which would also determine the simultaneity of two events and formations of nuclear fissions spatially close. The authors believe that Zh. S. Takibayev's method would solve the problem of the effect of connected fissions. Thirteen references, 11 Western and 2 USSR.

Institution : Physics Institute imeni P. N. Lebedev, Academy of Sciences USSR

Submitted : February 18, 1954

USSR/Nuclear Physics - Fission FD-2210

Card 1/1 Pub. 146-15/25

Author : Gramenitskiy, I. M.; Zamchalova, Ye. A.; Podgoretskiy, M. L.; Tret'yakova, M. I.; and Shcherbakova, M. N.;

Title : Nuclear fissionsconnected with heavy unstable particles

Periodical : Zhur. eksp. i teor. fiz. 28, 616-617, May 1955

Abstract : The authors remark that, by means of the method of thick-layered photo-emulsions, nuclear physicists have up to the present time found more than 100 nuclear fissions in which hyperons (charged hyperons Yt and Ao particles) and heavy mesons with mass about 1000 me (K and tau mesons) are produced; also observed are about 30 secondary nuclear fissions caused by nuclear capture of residual negative heavy mesons. In this short note the authors briefly expound certain results of a statistical analysis of these fissions. Seven references, all non-USSR.

Institution : Physics Institute im. P. N. Lebedev, Academy of Sciences USSR

Submitted : February 8, 1955

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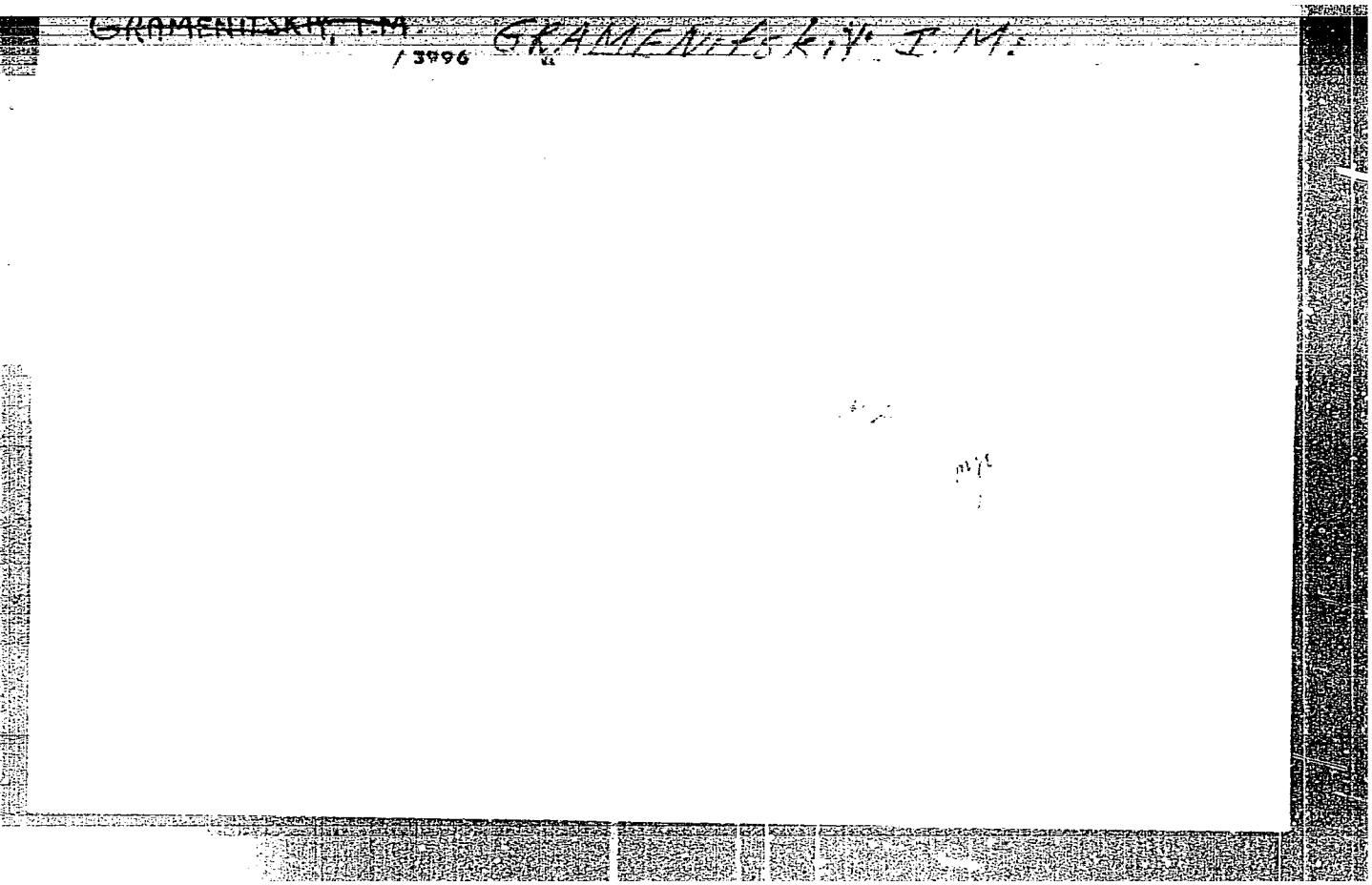


GRAMENITSKIY, I.M.

509-Rmt

3

5195. INVESTIGATION OF THE "ASSOCIATED STAR" EFFECT BY MEANS OF MOVING PHOTOGRAPHIC PLATES. 537.591.1 : 778.34
I.M.Gramenitskii, M.I.Podgoretskii and Yu.F.Sharapova.
Zh. eksper. teor. Fiz., Vol. 30, No. 2, 277-81 (1956). In Russian.

The moving photographic plate method was used to study the problem of simultaneity of formation of "associated stars" in nuclear tracks. It is shown that the so-called "associated stars" are formed at various times.

A.

GRAMENITSKIY, I.M.

USSR/Nuclear Physics - Elementary Particles. C-3

Abs Jour : Ref Zhur - Fizika, No 4, 1957, 8648

Author : Gramenitskiy, I.M., Zamchalova, Ye.A., Podgoretskiy, M.I. ~~Tret'yakova, M.I.,~~ Shcherbakova, M.N.

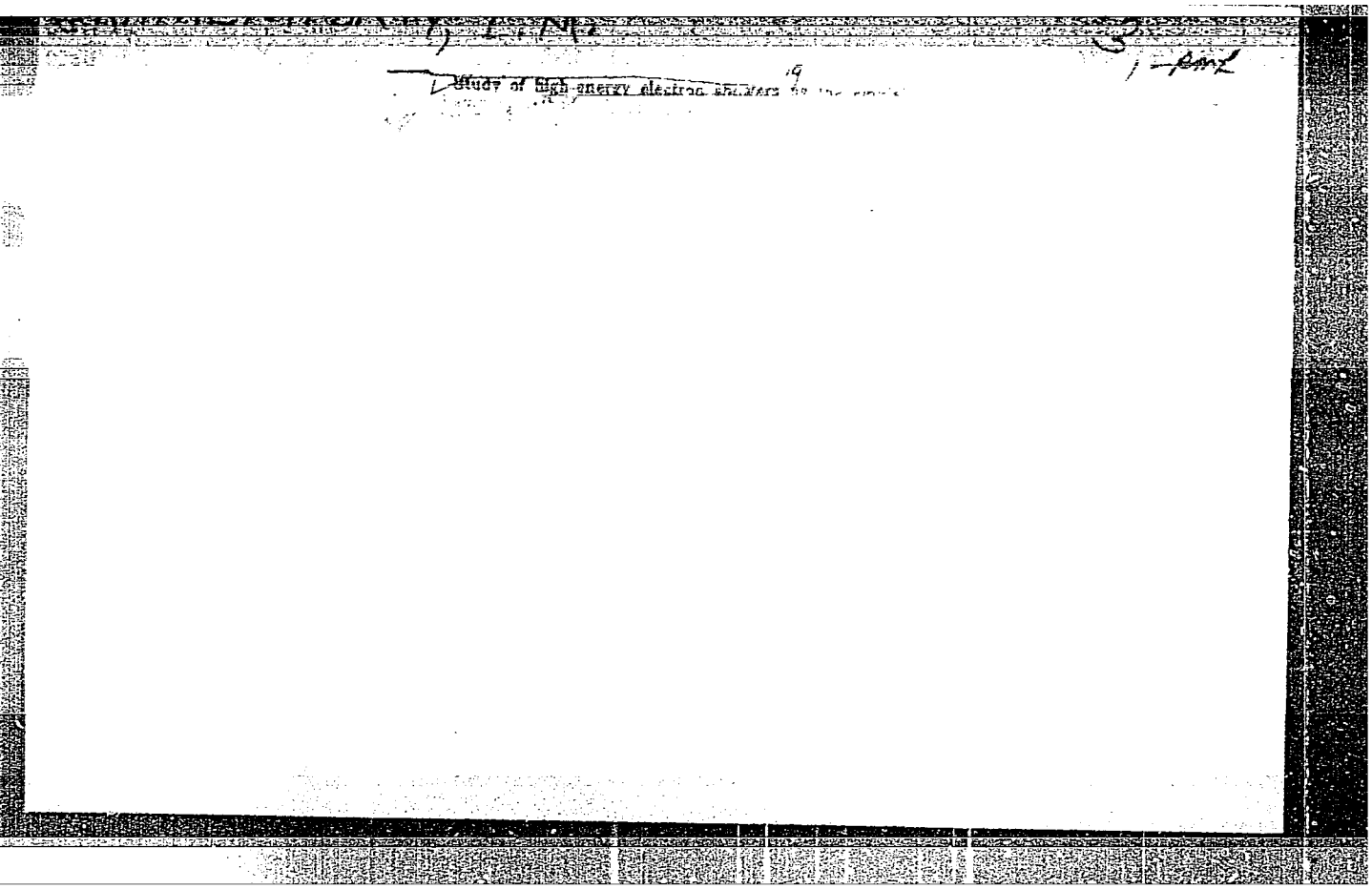
Inst :

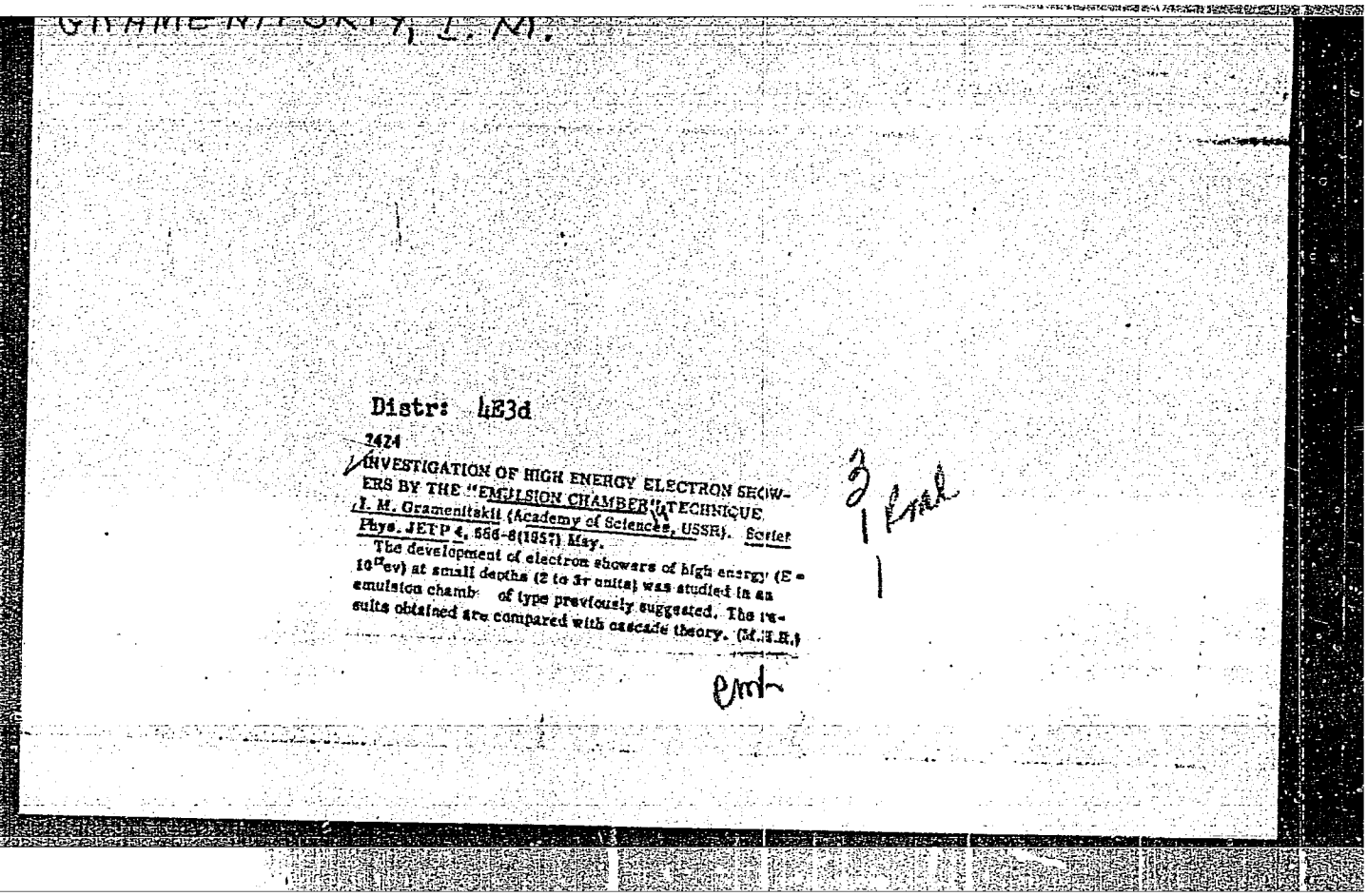
Title : Two τ-Mesons Detected in Photographic Emulsions.

Orig Pub : Zh. eksperim. i teor. fiziki, 1956, 30, No 5, 967-969.

Abstract : A description of two decays of τ-mesons, detected in a type R photo emulsion (450 microns), exposed at an altitude of 27 km. In one case all three pions terminate their range within the emulsion pile, and with this one of the secondary pions has a small energy (9.5 0.2 Mev). This, according to Dalitz, is evidence of the assumption that the τ- and χ- mesons are different particles, and not different types of decay of the same particle.

Card 1/1





Distr: 4E3d

2424

INVESTIGATION OF HIGH ENERGY ELECTRON SHOWERS BY THE "EMULSION CHAMBER" TECHNIQUE

I. M. Gramenitskii (Academy of Sciences, USSR). Soviet Phys. JETP 4, 566-8(1957) May.

The development of electron showers of high energy (E = 10^{12} ev) at small depths (2 to 3r units) was studied in an emulsion chamb of type previously suggested. The results obtained are compared with cascade theory. (M.I.T.)